Healthy Ageing and Healthy Economy

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Abstract

In the late-summer of 2013, high-level public policy-makers in the Thai government were absorbed in contemplating the results of a recently released research study that had examined the likely impacts of a rapidly aging population on several aspects of the Thai economy and society. Among other findings, the report had pointed out that Thailand now enjoyed the distinction of having the highest ratio of elderly (i.e., age 60+) citizens of any ASEAN nation, except Singapore. Indeed, within 5 years it was expected that for the first time in the history of Thailand, the population of older persons would surpass that of children.

To date, little public policy attention had been devoted to examining the long-term implications of a rising proportion of elderly citizens. But, it was understood that the implications were likely to be quite profound, particularly in areas such as the labor market, incomes, saving and investment, healthcare, and government spending. High-level public policy-makers were therefore keen to gain a deeper understanding of the most salient likely impacts, with a view to determining how government policy should be tailored to accommodate the emerging elderly majority, while simultaneously nurturing an environment for what the World Health Organization (WHO) called "healthy aging."

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Fortunately, as they embarked on their journey to see where an ageing demography might take the country, the high-level policy-makers had access to a research study entitled, "Health, Aging and Retirement in Thailand (HART)," that had been performed by the Office of Research at the National Institute for Development Administration (NIDA). The study contained a wealth of data that the high-level policy-makers believed might illuminate the challenges ahead, as well as suggest some public policy initiatives and arrangements that might be needed in the near- and medium-term future.

Keywords: Aging, Social Capital, Retirement Saving, Labor Market

สุขภาพที่ดีของการสูงอายุ และสุขภาพที่ดีของระบบเศรษฐกิจ

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บทคัดย่อ

ในปลายฤดูร้อนของปี 2013 ผู้กำหนดนโยบายระดับสูงของรัฐบาลไทยต้องพิจารณาไตร่ตรองอย่างคร่ำเคร่ง ถึงผลงานวิจัยที่วิเคราะห์ผลกระทบต่อระบบเศรษฐกิจในด้านต่าง ๆ อันเนื่องจากการเปลี่ยนแปลงอย่างรวดเร็วของโครงสร้างอายุประชากร การศึกษาดังกล่าวได้ชี้ให้เห็นว่า ปัจจุบันประเทศไทยมีสัดส่วนผู้สูงอายุ (ผู้ที่มีอายุตั้งแต่ 60 ปีขึ้นไป) มากเป็นอันดับสองในกลุ่มประเทศสมาชิกอาเซียนรองจากสิงคโปร์ และคาดการณ์ว่าในอีก 5 ปีข้างหน้าจะเป็นครั้งแรกของประวัติศาสตร์ไทยที่ประชากรผู้สูงอายุจะมีจำนวนมากกว่าประชากรวัยเด็ก

ในปัจจุบัน นโยบายสาธารณะของประเทศยังให้ความสำคัญกับเรื่องผลกระทบต่อระบบเศรษฐกิจอันเนื่องจากการเพิ่มขึ้นของประชากรผู้สูงอายุไม่มากนัก แม้จะเป็นที่ทราบโดยทั่วไปว่าการเปลี่ยนแปลงโครงสร้างประชากรจะมีผลกระทบในวงกว้าง โดยเฉพาะอย่างยิ่งต่อตลาดแรงงาน รายได้ครัวเรือน การออมและการลงทุน ระบบสาธารณสุข และการใช้จ่ายภาครัฐ ผู้กำหนดนโยบายระดับสูงของรัฐจึงต้องการที่จะมีความเข้าใจในเรื่องดังกล่าวอย่างชัดเจนลึกซึ้ง เพื่อการกำหนดนโยบายรองรับจำนวนประชากรผู้สูงอายุที่จะกลายเป็นประชากรส่วนใหญ่ของประเทศ และ

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เสริมสร้างบรรยากาศที่องค์การสุขภาพและอนามัยโลก (World Health Organization: WHO) เรียกว่า สุขภาพที่ดีของการสูงวัย (Healthy Aging)

นับเป็นโชคดีของคณะผู้กำหนดนโยบายระดับสูงของรัฐบาล ในขณะที่เริ่มต้นวิเคราะห์ผลกระทบของการเปลี่ยนแปลงโครงสร้างประชากรต่อประเทศนั้น คณะผู้กำหนดนโยบายระดับสูงของรัฐบาลได้เข้าถึงผลงานวิจัยเรื่อง "การสำรวจและศึกษาสุขภาพ การสูงอายุ และการเกษียณในประเทศไทยโดยการใช้ตัวอย่างซ้ำ" (ชื่อย่อว่าโครงการ HART) ดำเนินการศึกษาโดยสำนักวิจัยของสถาบันบัณฑิตพัฒนบริหารศาสตร์ (นิด้า) โครงการวิจัยดังกล่าวได้รวบรวมข้อมูลเกี่ยวกับการสูงอายุของประเทศไว้เป็นจำนวนมาก ซึ่งคณะผู้กำหนดนโยบายระดับสูงของรัฐบาลเชื่อว่าสามารถสะท้อนถึงความท้าทายของประเทศในอนาคต รวมทั้งกำหนดข้อเสนอแนะเชิงนโยบายและมาตรการเตรียมความพร้อมสำหรับประเทศในอนาคตทั้งในระยะสั้นและระยะปานกลาง

คำสำคัญ: การสูงอายุ ทุนทางสังคม การออมเพื่อชราภาพ ตลาดแรงงาน

The Ageing Situation in Thailand: A Macroeconomic Perspective

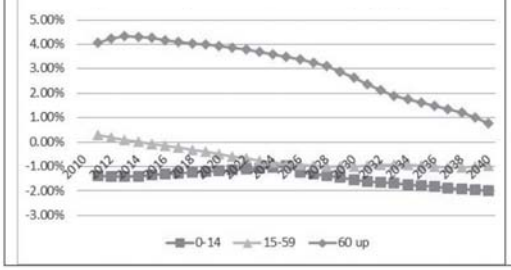
Due to the longevity of population over the last three decades, the ageing population of Thailand had increased rapidly. The National Economic and Social Development Board (NESDB) of Thailand forecasted that the number of Thai elders would increase from 9.5 million (15% of total population) today to be double in the next 20 years. The median age among Thai people also would increase from 37 years of age this year to 40 years old in just 5 years (see Table 1). According to the international standard, any country with a proportion of older persons exceeding 10% of its population and a median age population older than 30 years old was considered as ageing economy. By this measure, Thailand actually had been an ageing society since 2005.

Regarding population by age groups, Figure 1 shows that the youth population aged 0-14 years old in Thailand was shrinking due to a decline in the birth rate. As a result, the rate of growth of the working population aged 15-59 years old would be nullified in 2014 and then approach to -1% in the next 20 years. On the other hand, although the rate of growth of the elderly population aged 60 years and above was declining, its current rate of growth was around 4% and gradually would decrease to 1% in the next 25 years. The United Nations Population Fund (UNFPA, 2006) reported that Thailand ranked as the second most aged economy next to Singapore among the eleven countries in South-East Asia. With a contraction in the *juvenile dependency ratio* (number of youth divided by the number of working population) and a rise in the *elderly dependency ratio* (number of the older people divided by the number of working population), there would be more older people to take care of than there would be the younger generations that the Thai economy needed from the year 2018 onwards (see Figure 2).

The incipient fall in both the youth and working populations implied a long-term decline in the labor force, a major source of government income tax revenue, as well as a fall in national savings accumulation. Concomitantly, an increase of older persons would almost certainly cause a rise in the demand for various types of public welfare -- in particular, the long term care, senior-citizen housing, and the old-age income payments. As shown in Table 2, drawn from the Office of Fiscal Policy of the Ministry of Finance,

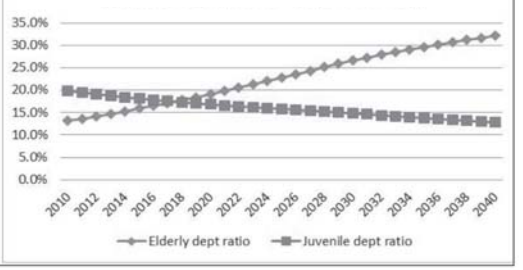
public expenditure for the elderly would account for 42% of government consumption by 2014. A further increase in government spending for older citizens could raise the public debt, or cut into expenditures for educational services, environmental protection, R&D initiatives, and/or labor productivity improvement programs, the latter of which was much needed in light of the diminishing labor market.

Figure 1: Population Growth by Age Group



Source: NESDB, Thailand.

Figure 2: Ratio of Dependency

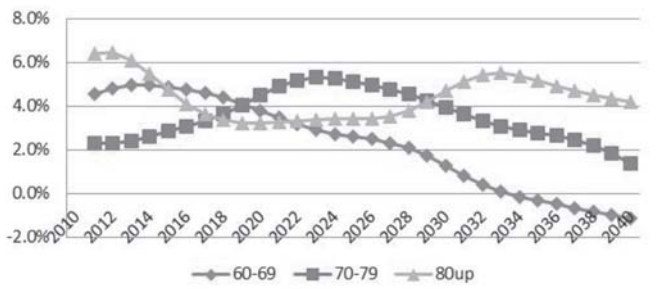


Source: NESDB, Thailand.

The UNFPA further reported that as a result of birth control and work migration from rural to urban areas, the family structure of Thailand had also dwindled from a family size of 4.8 persons per household in 1980 to an average of 2.5 persons per household in 2010. The situation portended less family support for the elderly. According to a disturbing 2007 survey by the National Statistics Office (NSO), approximately one-fifth (21.2%) of Thai elderly struggled to make ends meet, while another one-fifth (20.7%) reported that they only occasionally earned enough to satisfy their basic living needs.

In keeping with the NESDB demographic study, the ageing population could be divided into 3 subgroups, i.e., the *early ageing population* (aged 60-69 years old), the *middle ageing population* (aged 70-79 years old), and the *late ageing population* (aged 80 years or above). Figure 3 shows the demographic changes in these three groups. Due to medical advancement, the late ageing population was on the rise and would exceed the early ageing group in 2022 and then surpass the middle ageing group in 2030. The late ageing population was of major concern to the country since both the health and wealth of an individual normally declined with age. In conjunction with the NSO's findings on poverty among older persons, it was likely that the late ageing people would require more assistance in terms of health care, family arrangements, and other social and financial supports.

Figure 3: Ratio of Growth of the Ageing Population



Source: NESDB, Thailand.

Individual Retirement Savings

The old-age income payment program in Thailand was first implemented in 2008. It was a universal income subsidy program in which all Thai citizens aged 60+ were eligible. Currently, the early ageing people were entitled to 600 Baht a month, while the middle ageing and late ageing received 700 and 800 Baht a month, respectively. The payment was set to jump up to 1,000 Baht a month once the elder reached 90 years onwards. Nonetheless, the 2010 poverty line in Thailand was declared to 1,678 Baht per month, meaning that an average citizen required an income of at least this amount to escape from poverty. Hence, the government old-age income payment fell short of even providing the income required to keep an elderly citizen above the poverty line. Therefore, to bridge the gap, an individual's own savings during his/her work life were an indispensable means to ensure old-age income security.

In Thailand, a number of retirement mutual funds were available for both private and public workers. Whereas the Social Security Fund (SSF) and the Public Pension Fund (PPF) were the two major compulsory retirement-saving plans for employees in the private and public sectors, respectively, many other voluntary saving plans were also accessible. The Retirement Mutual Fund (RMF) and the Long Term Equity Fund (LTF), for instance, were two of the government financial instruments to encourage people to save for their retirement. The government allowed an individual to use his/her savings in the RMF and LTF for the income tax reduction. For each of these two mutual funds, an individual could

save up to 15% of his/her yearly income, up to a maximum of 300,000 Thai Baht a year for the income tax reduction purposes. While RMF savings could not be withdrawn until the depositor became 55 years old, savings in the LTF could be withdrawn 5 years after the initial saving deposit.

However, according to the Labor Force Survey (LFS) during 2007-12 shown in Table 3, nearly 63% of the Thai labor force worked in the "informal sector." This meant that they were unpaid family workers who helped in a family business (e.g., farming or selling goods and services), or they were self-employed workers such as taxi drivers, street merchants, barbers, etc. Informal workers were not obligated to join the SSF because they had no employers to co-share their SSF contribution. Thus, as compared to the formal workers, informal workers were more vulnerable to income uncertainty if they suffered an accident, an unexpected illness, or job loss. Further, the LFS also found that informal workers earn, on average, less than 300,000 Baht a year, the initial threshold for exemption from the payment of income taxes. With such a low level of income, they were adjudged unlikely to have any savings whatsoever, but merely income for the present day-to-day living. To underscore this situation, the NESDB estimated that only 37% of Thai workers had some savings for their retirement.

Among workers in the wage sector, because of a great deal of income inequality, the amount of pension payment for workers in different sectors could vary enormously. Dividing the total value of each retirement saving fund by the total number of its members (see Table 4), it can be seen that in 2011, while public employees enjoyed average savings of 447,672 Baht per person, private workers under the SSF only had average savings of 88,025 Baht per capita, or merely one-fifth of the savings of public employees. With a compound rate of growth on savings, the amount of pension payment for a retiring public officer would be more than 5 times greater than that of a private worker. However, some private workers in a company that provided an extra provident fund could accumulate additional savings of 265,567 Baht per capita. Of note, contract workers in the public sector on average had savings of just about a quarter of the permanent public officers, i.e., about 109,360 Baht per person. Finally, private school teachers whose retirement savings fund had just started, had average savings of 140,000 Baht per capita. With such huge differences in the level of savings between formal and informal workers, and among formal workers

themselves, it could be concluded that the savings disparity among Thai workers would carry its effect over to retirees.

The Ageing Situation in Thailand: A Microeconomic Perspective

An even deeper understanding of the elderly situation in Thailand could be gleaned from data encapsulating an individual perspective. For this reason, the high-level public policy-makers also had to consider a research study prepared by the Office of Research of the National Institute of Development Administration (NIDA). This study was done pursuant to a grant by the National Research Commission of Thailand (NRCT) in 2009 to run a pilot Project called "Health, Aging and Retirement in Thailand" (HART) – the purpose of which was to develop a survey instrument similar to those of the longitudinal surveys of ageing in other East Asian countries, like the Korea Longitudinal Studying of Aging (KLoSA), the Chinese Health and Retirement Longitudinal Study (CHARLS), and so forth. The project aimed to be a part of the data consortium of the longitudinal survey studies on ageing conducted in the US, EU, and many Asian countries.

The NIDA research team undertook a comprehensive survey of 1,500 individuals aged 45 years and older residing in Bangkok and surrounding cities, as well as in the northeast province of Khon-Kaen, as a precursor to the development and preparation of a full-scale panel survey that was launched earlier in 2013. The HART questionnaire contained an array of information on the Thai elderly in seven aspects consisting of personal demography, family support to respondent, individual health status, employment status, labor and non-labor market income, individual assets and liabilities, and, self-assessment on life satisfaction. A number of questions in KLoSA instrument were altered to make them appropriate to the circumstances in Thailand. However, after excluding some incomplete questionnaires, 1,478 observations remained.

Table 5 presents the overall picture of the surveyed sample, broken out according to residential areas and individual demographic characteristics. From Table 5, slightly more than half of the sample (51.5%) was those in between 45 and 59 years old. This pre-ageing sample was important for the panel survey study in the long term for it helped researchers to keep track of how health and the socio-economic status of the elders evolved over time. The sample consists more of those in the early

ageing group (27.8% of the whole sample) than those in the middle ageing (15.9%) and the late ageing (4.7%), respectively. The demographic structure of those living in urban areas, in general, was similar to those in rural areas. On average, the number of female observations was twice that of males. Two-thirds of the sample were married; 93.2% of the sample claimed to be Buddhists; and, the average elderly had obtained only a primary level of educational achievement or less.

As shown in Table 6, when the sample was considered in terms of their household characteristics, one-third of the sample were heads of households, and the majority of them (43%) owned their house. While there were more homeowners in rural towns than in urban cities, nearly 20% of rural residents had to live by themselves. The situation could be a concern if the lone homeowner became seriously ill and could not get any support from the extended family. The average elderly lived in a household of 2-3 persons with at least 1 or 2 members of the household aged 45 years or more. The finding thus supported the fact that Thailand had become an ageing economy.

In terms of support rendered by a respondent's own immediate family, Table 7 shows that while more than three quarters of the elderly (77%) did receive financial support from their children, about 22% of all the ageing groups reported that they did not have any support from their children. Further examination of the financial support issue revealed that about 40% of the sample received neither money nor time support from their children (see Table 8). A quarter of the sample received regular financial support from their first-born child, while another quarter received money support from time to time. Among those who received regular financial support, on average, the respondents received approximately 3,000 Baht a month from their first four children, but nearly one half reported that their support amounted to less than 2,000 Baht a month. HART survey data indicated both a vast deviation in the support remittances among Thai households and only limited financial aid from children to their ageing parents.

For the elderly's health status, the HART questionnaire first asked respondents to rank their own "physical health" on a scale ranging from 1 to 5 – denoting "very good," "good," "fair," "bad," or, "very bad" health, respectively. The same question and measuring scale was repeated for respondents to rate on their "mental health". Tables 9 and 10 contain

comparisons of both physical and mental health of respondents living in Bangkok and surrounding areas with those in Khon-Kaen. From Table 9, it can be seen that, in general, an individual's physical health declined with age, but those in Khon-kaen in general had a better health condition than those living in Bangkok and its nearby provinces. For example, the percentage shares of those considered themselves in "very good" health was 16.8% in Khon-kaen, as compared to 11.54% in Bangkok and its vicinity. Moreover, the percentage share of those who reported "very poor" health in Khon-kaen was merely 0.16%, while it was 2.19% in Bangkok and its neighboring areas. A similar pattern applied to mental health, as shown in Table 10. In addition, Tables 11 and 12 report the chronic illness diagnoses, as well as the respondents' Body Mass Index (BMI).

Regarding individual working status, Table 13 shows that 65% of the pre-ageing group were still participating in the labor market, but that participation declined as people became older. This may have been due to their physical health deterioration. Nonetheless, asking those who were unemployed whether they would be willing to work if market jobs become available, 70% responded affirmatively, but the rest did not (see Table 14). The main reason given for not being ready to join the labor market was the need to take care of grandchildren at home or to work as unpaid family workers (50%), whereas another 30% cited a health problem (see Table 15).

Among the employed workers, the study found that less than a quarter of the sample (23.4%) was wage workers (see Table 16). Thus, the majority of the respondents were self-employed either in the agricultural (21.51%) or non-agricultural sector (50.15%). Concerning individual retirement savings, more than half (51.24%) of respondents did not participate in any retirement mutual fund (Table 17) due to the fact that majority of them were non-wage workers. It could therefore be concluded that Thai elders were quite vulnerable to all sorts of uncertainty -- from an unexpected illness, to sudden job loss, to various internal and external shocks, and so on.

Since younger generations were more involved in the labor market than the elderly, returns from the labor market declined with age (see Table 18). However, the majority of workers reported that they earned less than 100,000 Baht a year. This low level of earnings underlined the fact that both pre-retired and retired workers in Thailand did not have enough savings for their retirement.

For those who received government pension income, the Hart survey found that public retirees' income fell with age (see Table 19). More than 80% of the pension payment belonged to those in their early ageing or middle ageing. In addition, there was a payment differential between those living in urban and rural areas: More than 50% of the retirees in the big cities earned a public pension of 200,001-400,000 Baht a year, whereas the majority of retirees in rural area earned less than 200,000 baht per year.

In terms of individual wealth, Table 20 summarizes the total value of assets of respondents according to their age group and gender. In general, men in all age groups were wealthier than their female counterparts. Those in the urban area were also wealthier than their counterparts in rural areas. Individuals accumulated more wealth as they become older, except for the late-ageing group whose asset value contracted. The late-ageing population, especially elderly women, was thus less protected from poverty. With respect to the wealth of other household members, it turned out that household members of male respondents appeared to be richer than those of female respondents, except for those living with women aged 70-79 years old in rural areas (see Table 21).

Finally, the Hart questionnaire asked the respondents to assess their life satisfaction using scores from 0 to 100, in which 0 refers to no satisfaction at all. Hence, the score increased with a rising level of individual satisfaction, and reflected the respondents' degree of pleasure or happiness. In Table 22, respondents were divided according to their age group and levels of life satisfaction in which the score of 50 was used as the dividing point. Of note, most of the respondents satisfied with their life thus gave the score higher than 50. The results showed that the older the respondents, the more they were content with their life.

Connectedness and Elderly Health

A growing body of research findings associating social connectedness with good health started with studies by Putnam (2000), Szreter and Woolcock (2004), Islam, Merlo, Kawachi, Lingstrom, and, Gerthan (2006), Sirven and Debrand (2008), Ichida, Kondo, Hirai, Hanibuchi, Yoshikawa, and, Murata (2009), and others. Using HART survey data, a researcher on the HART research team investigated whether the association held in Thailand.

The HART survey classified membership in social associations into 7 categories: - (1) Religious organizations, (2) Professional associations, (3) Cultural, art, music, and, sport clubs, (4) Education-related organizations, (5) Voluntary associations, (6) Political parties and non-profit organizations, and, (7) 0ther social associations. Of the 1,478 observations, about 18 percent were members to at least one association (see Table 23).

Using Probit regression, the study found that being married and the level of education of respondents significantly contributed positively to the probability of reporting good physical and mental health. The more the elderly participated in social activities, the higher the probability of reporting good or very good health -- in particular, mental health. Social participation to good physical health added an income equivalence of a 5 percent increase in individual non-labor income, whilst social participation to good mental health accounted for an almost 14 percent increase in the total asset value (see Table 24). Participating in voluntary associations thus reduced heath inequalities among older people. Hence, the findings advocated for the social involvement of elderly people as a part of a quality ageing policy, and were consistent with the conceptual framework of "healthy ageing," defined by WHO (2006), as a process of advancing the health of the elderly through increasing opportunities for older people to take part in society.

How Government should Cope with the Ageing Situation?

At this point, the high-level public policy-makers were overwhelmed with an excessive amount of data. They could see that a decline in Thailand's labor force would have a significant impact on government tax revenue, national savings, and eventually the well-being of the elderly. The emerging ageing population would increase government spending on healthcare, old age income payments, and other welfare programs. However, government spending on the elderly would also cut into many other socio-economic development programs or precipitate an increase in public debt.

They had also learned various aspects of the elderly's living condition from the HART study, especially the research finding that social participation of older people could help to promote both physical and mental health. All these findings and facts left the high-level public policy makers wondering what Thailand quality ageing policy should look like.

Since the Parliament would resume its meeting in August, the public policy makers now had only a two-week time frame in which to get their first draft of policy recommendations presented to the Cabinet before any national plan or legislation on older persons could be submitted to the House of Representatives for consideration. The high-level public policy makers were now in much need of help to further analyze the data and come up with some policy initiatives.

Table 1: Demographic Structure in Thailand

Year	0-14	15-59	60-69	70-79	80+	Median Age
2010	12,641,653	42,739,938	4,629,668	2,708,118	1,070,178	35
2011	12,469,848	42,861,664	4,841,303	2,770,770	1,138,837	36
2012	12,295,764	42,942,157	5,075,900	2,834,106	1,212,261	37
2013	12,122,704	42,983,289	5,329,040	2,901,566	1,286,446	37
2014	11,954,110	42,988,627	5,594,763	2,976,618	1,356,964	38
2015	11,792,805	42,960,517	5,867,992	3,061,705	1,421,397	38
2016	11,640,688	42,899,083	6,147,270	3,156,361	1,479,747	39
2017	11,493,125	42,802,714	6,430,978	3,261,056	1,533,788	39
2018	11,350,639	42,670,438	6,713,888	3,379,748	1,585,322	40
2019	11,213,384	42,500,775	6,990,158	3,517,304	1,636,640	40
2020	11,081,419	42,293,164	7,255,604	3,676,577	1,689,474	40
2021	10,954,788	42,049,293	7,506,803	3,857,926	1,744,966	40
2022	10,833,565	41,771,250	7,743,472	4,058,705	1,803,438	41
2023	10,717,914	41,459,824	7,968,452	4,274,843	1,864,774	42
2024	10,608,070	41,115,721	8,186,186	4,500,855	1,928,582	42
2025	10,505,707	40,738,925	8,398,793	4,732,184	1,995,070	42
2026	10,374,331	40,366,148	8,607,217	4,967,322	2,064,032	43
2027	10,238,771	39,975,788	8,807,328	5,205,092	2,137,044	43
2028	10,098,283	39,576,887	8,990,131	5,441,830	2,218,003	43
2029	9,952,289	39,180,558	9,143,861	5,673,684	2,311,605	43
2030	9,800,353	38,795,010	9,260,428	5,897,923	2,420,579	43
2031	9,642,048	38,425,315	9,336,850	6,112,030	2,545,364	43
2032	9,482,670	38,065,279	9,376,067	6,315,534	2,683,584	43
2033	9,322,008	37,710,788	9,383,628	6,510,472	2,831,654	43
2034	9,159,989	37,354,809	9,367,961	6,699,949	2,984,881	43
2035	8,996,653	36,992,797	9,335,601	6,885,220	3,139,792	43
2036	8,832,151	36,623,284	9,288,599	7,066,912	3,294,913	43
2037	8,666,763	36,249,839	9,226,467	7,241,532	3,450,379	43
2038	8,500,872	35,878,780	9,150,296	7,401,311	3,606,293	43
2039	8,334,954	35,518,694	9,060,673	7,536,214	3,763,283	43
2040	8,169,543	35,175,226	8,958,487	7,639,436	3,921,450	43

Source: NESDB, Thailand.

Table 2: Thailand Public Spending on Elderly as the Percentage of Total Government Consumption

Year	Public Pension and Old Age Income Payment		Total Expenditure on Health Care		Total Govt. Consumption	
	In Million Thai Baht	% of Govt. Consumption (1)	In Million Thai Baht	% of Govt. Consumption (2)	In Million Thai Baht	% of Govt. Consumption (1)+(2)
2006	99,230	17	59,667	10	574,762	28
2007	119,315	18	105,126	16	668,068	34
2008	123,375	17	115,299	16	734,738	32
2009	140,959	18	129,098	16	789,281	34
2010	188,183	21	141,404	16	882,286	37
2011	200,892	21	161,811	17	951,221	38
2012	215,011	21	187,209	18	1,029,093	39
2013	230,728	21	218,752	20	1,117,331	40
2014[F]	248,203	21	256,883	21	1,216,815	42

Source: Fiscal Policy Office, Ministry of Finance.

Table 3: Thailand Labor Force Survey

Year	In the Labor Force	Employed Workers	Formal Workers	Informal Workers	% Share of Informal Workers
2007	37,611,600	37,121,977	13,841,307	23,280,670	61.90
2008	n.a.	37,836,559	13,730,853	24,105,706	n.a.
2009	38,879,400	38,371,526	14,053,744	24,317,782	62.55
2010	39,092,800	38,691,581	14,557,840	24,133,741	61.73
2011	39,623,400	39,317,236	14,730,395	24,586,840	62.05
2012	39,809,100	39,578,344	14,778,844	24,799,500	62.30

Source: National Statistics Office.

Table 4: Average Value of Various Retirement Saving Funds per Head (in Thai Baht)

Year	SSF	PPF	Provident Fund	Contract Workers in Public Sector	Private School Teachers
2002	25,128	164,580	188,577	26,379	
2003	29,980	205,278	202,460	31,595	
2004	36,414	214,803	201,100	37,848	
2005	43,103	246,615	207,657	45,926	
2006	49,679	272,638	215,988	55,146	
2007	58,598	319,289	230,650	66,810	
2008	59,475	335,840	226,575	74,057	
2009	73,586	369,421	258,747	87,144	
2010	81,335	370,981	268,909	100,785	
2011	88,025	447,672	265,567	109,360	140,000

Source: NESDB, Thailand.

Table 5: Demographic Structure of HART Surveyed Sample (as % of 1,478 Observations)

Personnel Characters	Total	Urban	Rural
Age Groups			
- ≤ 59 yrs.	51.5	48.4	54.3
- 60-69 yrs.	27.8	31.5	24.6
- 70-79 yrs.	15.9	15.5	16.3
- ≥ 80 up	4.7	4.6	4.8
Genders			
- Male	33.3	32.9	33.7
- Female	66.7	67.1	66.3
Maritial Status			
- Single	4.2	5.5	3.1
- Married	65.5	63.5	67.2
- Widow	23.4	23.1	23.7
- Divorce	6.9	7.9	6.0
Religion			
- Buddhist	93.2	88.6	97.2
- Christian	0.4	0.1	0.6
- Islam	3.9	8.4	0.0
- Others	2.4	2.8	2.2
Highest Educational Achievement			
- Primary education or less	78.0	73.4	81.9
- Secondary education	16.9	20.8	13.5
- Bachelor degree or higher	16.9	5.8	4.6

Source: HART survey, NIDA

Table 6: Living Arrangement of HART Surveyed Sample (as % of 1,478 Observations)

Personnel Characters	Total	Urban	Rural
Respondent's Staus in the House			
- Head of household	33.1	37.2	29.6
- Homeowner	43.0	38.6	46.9
Number of Household Members			
- 1 person	16.9	13.8	19.6
- 2 persons	25.1	23.1	26.9
- 3 persons	23.4	23.7	23.3
- 4 persons	16.7	18.0	15.5
- ≥ 5 persons	17.9	21.4	14.7
Number of Household Members Older than 45 Years Old			
- 1 person	0.4	0.6	0.3
- 2 persons	44.2	41.8	46.4
- ≥3 persons	47.5	47.9	47.1

Source: HART survey, NIDA

Table 7: % Share of Respondents Receiving Financial Support from Their Children

	Received Support from Children	Did not Received Any Support from Children
Age Groups		
- ≤ 59 yrs.	56.44	43.56
- 60-69 yrs.	78.16	21.84
- 70-79 yrs.	77.88	22.12
- ≥ 80 up	77.78	22.22
Residential Area		
- Urban	64.61	35.39
- Rural	68.81	31.19

Source: HART survey, NIDA

Table 8: Supports from the First Four Children

	1st Child	2nd Child	3rd Child	4th Child
Types of Supports				
- Regular financial support	25.5	21.7	22.5	22.4
- Occasional financial support	27.7	27.1	30.5	31.5
- In-kind/time support	5.6	6.1	6.6	8.4
- No support at all	41.3	45.2	40.4	37.7
Amount of Monthly Support*				
- < 1,000	13.7	14.5	20.6	21.4
- 1,000-1,999	33.8	35.7	33.7	44.6
- 2,000-2,999	18.3	23.0	21.7	19.6
- 3,000-3,999	15.1	12.7	11.9	7.1
- 4,000-4,999	5.9	4.2	5.4	3.6
- ≥ 5000	13.2	9.7	6.5	3.6
Average	3,239.77	2,978.67	2,387.30	3,003.57
S.D.	3,734.40	3,359.63	3,102.57	4,140.63

Note: * for those who received regular money support.

Source: HART survey, NIDA

Table 9: Physical Health of the Respondents by Age Groups

	v. good	good	fair	bad	v. bad
BKK and Vicinity Area					
- < 60	13.99	40.56	33.57	10.49	1.40
- 60-69	8.33	32.92	41.67	14.17	2.92
- 70-79	11.29	29.03	33.87	21.77	4.03
- ≥ 80 and up	3.33	20.00	33.33	43.33	0.00
- Overall	11.54	35.84	35.97	14.46	2.19
Khon-kaen Province					
- < 60	22.98	37.54	30.10	9.39	0.00
- 60-69	15.43	35.80	30.25	17.90	0.62
- 70-79	5.83	32.04	41.75	20.39	0.00
- ≥ 80 and up	2.56	30.77	38.46	28.21	0.00
- Overall	16.80	35.73	32.63	14.68	0.16

Source: HART survey, NIDA

Table 10: Mental Health of the Respondents by Age Groups

	v. good	good	fair	bad	v. bad
BKK and Vicinity Area					
- < 60	19.34	56.60	21.46	2.36	0.24
- 60-69	11.44	64.83	19.49	4.24	0.00
- 70-79	14.63	47.97	22.76	9.76	4.88
- ≥ 80 and up	13.33	43.33	26.67	16.67	0.00
- Overall	16.11	57.20	21.28	4.55	0.86
Khon-kaen Province					
- < 60	28.99	50.16	18.57	2.28	0.00
- 60-69	25.47	52.80	17.39	4.35	0.00
- 70-79	17.48	63.11	17.48	1.94	0.00
- ≥ 80 and up	16.22	62.16	13.51	8.11	0.00
- Overall	25.53	53.78	17.76	3.13	0.00

Source: HART survey, NIDA

Table 11: % of Chronic Illnesses of the Respondents

	≤ 60 yrs.	60-69 yrs.	70-79 yrs.	≥ 80 up	Overall
	Bangkok and nearby Provinces				
Physical disability	2.28	4.92	3.85	10.00	3.56
Vision problem	31.66	31.56	33.85	56.67	32.86
Hearing problem	2.73	3.69	16.92	33.33	6.29
Pronouncing problem	0.68	1.64	6.15	6.67	2.02
Kidney problem	2.05	2.05	5.38	6.67	2.73
Heart problem	6.61	8.20	15.38	20.00	8.90
Brain disease	0.46	0.41	2.31	0.00	0.71
Mental disorder	0.68	2.46	1.54	0.00	1.30
Other illness	1.82	3.69	6.15	3.33	3.08
	Khon-Kaen Province				
Physical disability	5.10	4.94	4.85	2.56	4.85
Vision problem	16.24	12.35	23.30	15.38	16.34
Hearing problem	1.59	4.32	7.77	12.82	4.05
Pronouncing problem	0.64	0.62	0.00	2.56	0.65
Kidney problem	4.46	1.23	1.94	5.13	3.24
Heart problem	2.23	3.09	4.85	5.13	3.07
Brain disease	0.00	1.23	0.00	0.00	0.32
Mental disorder	0.00	1.23	0.97	2.56	0.65
Other illness	2.87	3.70	3.88	7.69	3.56

Source: HART survey, NIDA

Table 12: % of Respondents divided by Body Mass Index (BMI)

	18.5-24.9 (normal)	25-30 (over weight)	30.1-34.9 (1st level of obesity)	35-40 (2nd level of obesity)	> 40 (3rd level of obesity)
BKK and Vicinity Area					
- < 60	54.48	31.59	10.20	2.74	1.00
- 60-69	54.55	30.45	13.64	0.91	0.45
- 70-79	63.06	32.43	2.70	1.80	0.00
- ≥ 80 and up	81.48	14.81	3.70	0.00	0.00
- Overall	56.71	30.79	9.87	1.97	0.66
Khon-kaen Province					
- < 60	56.10	33.80	8.01	2.09	0.00
- 60-69	58.45	30.99	8.45	2.11	0.00
- 70-79	74.70	19.28	4.82	1.20	0.00
- ≥ 80 and up	78.57	21.43	0.00	0.00	0.00
- Overall	60.74	30.19	7.22	1.85	0.00

Source: HART survey, NIDA

Table 13: Employment Status of Respondents

Age Groups	Employed	Unemployed
- < 60	65.08	34.92
- 60-69	37.68	62.32
- 70-79	21.89	78.11
- ≥ 80 and up	10.14	89.86
All Age Groups	**47.74**	**52.26**

Source: HART survey, NIDA

Table 14: Willingness of Unemployed Workers to go to work

Willing to go to work if jobs are available	70.37%
Not willing to go to work even when jobs are available	29.63%

Source: HART survey, NIDA

Table 15: Reasons for not Ready to go to work

- Having health problem	31.25%
- Taking care of grandchildren	50.00%
- Other constraints	18.75%

Source: HART survey, NIDA

Table 16: Working Status in the Main Job

- Wage workers	23.40%
- Self-employed in agricultural sector	21.51%
- Self-employed in non-agricultural sector	50.15%
- Unpaid family worker	4.94%

Source: HART survey, NIDA

Table 17: Members of Mutual Fund Saving

- Private social security fund	26.54%
- Public pension fund	15.43%
- Private provident fund	6.79%
- Not belong to any retirement saving fund	51.24%

Source: HART survey, NIDA

Table 18: Earning from Labor Market (as % of Respondents)

	45-59 yrs.	**60-69 yrs.**	**70-79 yrs.**	**80 yrs. up**
Urban Area				
< 100,000	56	65	90	80
100,000-200,000	28	22	10	20
200,001-300,000	7	8	0	0
300,001-400,000	2	0	0	0
400,001-500,000	4	0	0	0
> 500,000	2	5	0	0
Rural Area				
< 100,000	70	81	81	75
100,000-200,000	18	15	7	0
200,001-300,000	4	4	7	0
300,001-400,000	4	0	0	0
400,001-500,000	2	0	0	0
> 500,000	3	0	4	25

Source: HART survey, NIDA

Table 19: Earning from the Public Pension Fund (as % of Public Retirees)

	45-59 yrs.	60-69 yrs.	70-79 yrs.	80 yrs. up
Urban Area				
< 100,000	67	6	14	100
100,000-200,000	0	25	29	0
200,001-300,000	33	31	43	0
300,001-400,000	0	19	0	0
400,001-500,000	0	0	0	0
> 500,000	0	19	14	0
Rural Area				
< 100,000	0	44	55	0
100,000-200,000	50	33	9	0
200,001-300,000	0	11	0	0
300,001-400,000	0	6	0	0
400,001-500,000	0	0	18	0
> 500,000	50	6	18	0

Source: HART survey, NIDA

Table 20: Average Values of Assets of the Respondents (in Thai Baht)

	45-59 yrs.	60-69 yrs.	70-79 yrs.	80 yrs. up
Men				
- Urban	2,334,127	1,909,383	4,059,606	3,773,033
- Rural	1,773,531	2,196,016	3,154,247	1,164,250
Women				
- Urban	1,830,583	2,812,627	1,735,809	929,917
- Rural	1,373,769	1,915,148	1,439,536	1,255,000

Source: HART survey, NIDA

Table 21: Average Values of Assets of Other Household Members (in Thai Baht)

	45-59 yrs.	60-69 yrs.	70-79 yrs.	80 yrs. up
Men				
- Urban	633,333	234,722	512,500	1,360,000
- Rural	226,000	643,750	300,000	26,000
Women				
- Urban	285,455	1,939,375	305,882	75,000
- Rural	209,828	423,529	837,568	175,000

Source: HART survey, NIDA

Table 22: Overall Life Satisfaction Assessed by the Respondents

	45-59 yrs.	60-69 yrs.	70-79 yrs.	80 yrs. up
Urban				
- ≤ 50	13.69%	18.77%	22.86%	22.58%
- > 50	86.30%	81.22%	77.14%	77.42%
Rural				
- ≤ 50	9.55%	13.99%	15.62%	28.95%
- > 50	90.45%	86.01%	84.38%	71.05%

Source: HART survey, NIDA

Table 23: Numbers of Respondents Participated in Social Associations

Type of Associations	Number of Observations
1. Religious organizations	27
2. Professional associations	52
3. Cultural, art, music, and, sport clubs	14
4. Educational related organizations	7
5. Voluntary associations	53
6. Political and non-profit organizations	2
7. Other social associations	113
Total Club Members	**268**

Source: Apinunmahakul (2013) "Financial and Social Capitals of Elderly People in Thailand" European Journal of Social Science, upcoming.

Table 24: Marginal Effects of *Physical* and *Mental* Health given that *i was a* Club Member

Variable Name	Prob (for $SRH^i_{physical}$ = 1/$CLUB^i$ = 1)		Prob (SRH^i_{mental} = 1 / $CLUB^i$ = 1)	
	Marg. Effect	z-stat	Marg. effect	z-stat
1.1 *Personal Characteristics*				
Male	0.048	1.53	0.021	1.05
Age	-0.008***	-4.49	-0.003***	-2.89
Married	0.085**	2.48	0.048**	2.01
Yrs_school	0.023***	4.12	0.008**	2.08
Spouse_yrs_school	-0.005	-1.23	0.000	-0.01
1.2 *Living Arrangement*				
HH_members	-0.008	-0.93	-0.011*	-1.89
Children	-0.013	-0.90	-0.010	-1.11
Children_month	0.038	0.99	0.033	1.26
Children_year	0.073	1.34	0.057*	1.84
Children_higher_educ	0.017	1.07	0.019*	1.80
Grandchildren	0.003	0.49	0.010**	2.27
Hrswork	0.013	-0.74	0.000	1.25
Recreation	0.003	1.14	0.001**	2.03
1.3 *Individual Wealth*				
Low_income	-0.020	-0.52	0.000	0.02
Middle_Income	-0.051	-1.47	-0.049*	-1.95
Ln(wealth)	0.013**	2.13	0.003	0.63
Ln(asset)	0.003	0.64	0.006**	2.31
Ln(children money)	-0.003	-1.10	0.001	0.69
In-kind income	-0.001	-0.04	0.006	0.76
RHO	0.128**	2.28	0.191***	2.98
Log-likelihood Ratio	-1412.7253***	217.05^{+++}	-1238.7118***	179.88^{+++}

Note: *** 1% level of significance; ** 5% level of significance; * 10% level of significance, and, $^{+++}$ Chi-square statistics